

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB115NM

Site Name: Deep Sand

Precipitation or Climate Zone: 10 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to gently sloping or undulating topography. Slopes range most often from 1 to 10 percent. Elevations vary from about 6,000 to 7,300 feet above sea level.

Land Form:

1. Plain

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	6,000	7,300
Slope (percent)	1	10
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid May too early or mid September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given ecological site, which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm/cool-season dominants are present.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	102	148
Freeze-free period (days):	119	174
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

			Period	
Station ID	<u>290640</u>	Location	<u>Augustine 2E, NM</u>	From: <u>05/01/26</u> To: <u>07/31/00</u>
Station ID	<u>296812</u>	Location	<u>Pietown 19NE, NM</u>	From: <u>09/01/88</u> To: <u>07/31/00</u>
Station ID	<u>297180</u>	Location	<u>Quemado, NM</u>	From: <u>08/01/15</u> To: <u>07/31/00</u>

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced by water form a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES**Narrative:**

The soils of this site are typically eolian deposits of coarse sands, fine sands, or loamy sands over similarly coarse textured underlying layers. They are deep, have rapid permeability, and moderate to low available water-holding capacity. They are subject to severe soil blowing whenever plant cover becomes sparse.

Parent Material Kind: Eolian deposits

Parent Material Origin: Sandstone-unspecified

Surface Texture:

1. Loamy sand
2. Fine sand
3. Loamy fine sand
4. Fine sandy loam
5. Sand

Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Sandy

Surface Fragments $\leq 3''$ (% Cover): N/A

Surface Fragments $> 3''$ (% Cover): N/A

Subsurface Fragments $\leq 3''$ (%Volume): 15 to 35

Subsurface Fragments $\geq 3''$ (%Volume): N/A

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Excessively</u>
Permeability Class:	<u>Moderately slow</u>	<u>Very rapid</u>
Depth (inches):	<u>72</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>2.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>5.00</u>
Soil Reaction (1:1 Water):	<u>6.1</u>	<u>8.4</u>
Soil Reaction (0.1M CaCl₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>3</u>	<u>9</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

This is predominantly a grassland site characterized by both warm/cool-season grasses, low growing shrubs and half-shrubs, and a variety of forbs. Natural co-dominants are Indian ricegrass, blue grama, and spike dropseed. Shrubs and half-shrubs include sand sagebrush, and scattered rabbitbrush. Forbs may include wild buckwheat and stickleaf mentzelia.

Canopy Cover:

Trees

Shrubs and half shrubs 5 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 18

Bare ground 72

Surface gravel 0

Surface cobble and stone 0

Litter (percent) 10

Litter (average depth in cm.) 1

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	220	470	720
Forb	33	71	108
Tree/Shrub/Vine	22	47	72
Lichen			
Moss			
Microbiotic Crusts			
Total	275	588	900

Plant Community Composition and Group Annual Production:**Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	118 – 147	118 – 147
2	ACHY	Indian Ricegrass	118 – 147	118 – 147
3	SPCO4 SPCR	Spike Dropseed Sand Dropseed	88 – 118	88 – 118
4	MUTO2 MUAR2 PLJA	Ring Muhly Sandhill Muhly Galleta	6 – 18	6 – 18
5	PASM ELEL5 HENE2 HECO26	Western Wheatgrass Bottlebrush Squirreletail New Mexico Feathergrass Needleandthread	29 – 88	29 – 88
6	BOER4 BOCU	Black Grama Sideoats Grama	6 – 18	6 – 18
7	ARIST	Threeawn spp.	6 – 18	6 - 18

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	2FP	Other Perennial Forbs	6 – 59	6 – 59
9	2FA	Other Annual Forbs	6 – 29	6 - 29

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ARFI2 ATCA2 YUGL	Sand Sagebrush Fourwing Saltbush Small Soapweed	6 – 29	6 – 29
11	ERNAN5 GUSA2	Rubber Rabbitbrush Broom Snakeweed	6 – 18	6 – 18
12	2SD	Other Shrubs	6 – 18	6 - 18

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth CurvesGrowth Curve ID 0306NMGrowth Curve Name: HCPCGrowth Curve Description: Mixed warm/cool-season grassland w/low growing shrubs and half-shrubs and a variety of forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitats which support a resident animal community that is characterized by pronghorn antelope, kit fox, badger, desert cottontail, spotted ground squirrel, Ord's kangaroo rat, white-throated woodrat, Botta's pocket gopher, plains pocket mouse, Northern grasshopper mouse, sparrow hawk, mourning dove, meadowlark, chipping sparrow, plains spadefoot toad, Eastern fence lizard, plateau whiptail, short-horned lizard and prairie rattlesnake.

Common raven and prairie falcon hunt over the site and black-chinned sparrow nest here. Where dense stands of large pinyon, juniper or ponderosa pine occur, woodland wildlife species such as mule deer, gray fox, rock squirrel, harlequin quail, pinyon jay, scrub jay, chipping sparrow and Cassin's kingbird become site-characteristic.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Berent	A
Loarc	B
Mespun	A
Mido	A
Palma	A
Pinaventes	A
Razito	A
Royosa	A
Sheppard	A
Telescope	A

Recreational Uses:

This site offers fair potential for hiking, horseback riding, nature observation, photography, camping, and picnicking. It also provides fair to good opportunity for pronghorn antelope hunting.

Natural beauty is dependent upon scattered flowering shrubs and forbs, and the general, open grassland character of the site.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing:

This site is suitable for grazing by most kinds and classes of livestock in all seasons of the year. It is, however, poorly suited for continuous yearlong use if the natural potential vegetation is to be maintained. Under such use, cool-season grasses such as Indian ricegrass may decline rapidly. If use is heavy and prolonged, such species as blue grama and black grama will also decline. Increased amounts of bare soil, an increase or invasion by woody plants and annuals, and such grasses as sandhill muhly, threeawns, and ring muhly characterize severe site deterioration. Soil blowing and hummocking also occur under this condition and production is cut severely. The site is also sometimes invaded by woody species such as pinyon pine and juniper, or in rare instances, ponderosa pine, and may support relatively long-lived stands of these species.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	3.7 – 5.0
75 – 51	4.8 – 7.0
50 – 26	6.8 – 13.0
25 – 0	13.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Galleta	Plueraphis jamesii	EP	U	U	U	U	U	D	D	D	D	D	U	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Most Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Some Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Indian Ricegrass	Achnatherum hymenoides	EP	U	U	P	P	P	U	U	U	D	D	D	U
Most Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Some Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	EP	D	D	D	D	D	D	D	D	D	D	D	D

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: Catron, Socorro

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Cibola, Catron, Socorro, Sandoval.

Characteristic Soils Are:

Berent, Loarc, Mespun, Mido, Palma	Penavetes, Razito, Royosa, Sheppard
Telescope	

Other Soils included are:

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Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	02/15/80	Durwood E. Ball	03/27/80

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	07/08/02	George Chavez	12/16/02